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RECEIVED 11 October 2025

REVISED 16 November 2025

ACCEPTED 25 November 2025

PUBLISHED 11 December 2025

CITATION

Kimhi Y (2025) Rethinking literacy instruction for nonspeaking autistic learners: a perspective on evidence, exclusion, and the right to read. *Front. Educ.* 10:1722796. doi: 10.3389/feduc.2025.1722796

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Rethinking literacy instruction for nonspeaking autistic learners: a perspective on evidence, exclusion, and the right to read

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As inclusive policies expand, more and more children with high support needs, including those with autism spectrum disorder (ASD), are placed in general education classrooms. However, nonspeaking autistic learners are among the most systematically excluded learners from equitable literacy education. Despite growing international commitments to educational equity, these learners, who represent a unique subgroup within the autism spectrum, continue to face barriers due to a lack of teacher preparedness, outdated assumptions about language prerequisites for reading, and insufficient focused research. This Perspective article argues that the exclusion of nonspeaking learners from literacy instruction reflects a gap in instructional vision and preparedness. Drawing on recent research, clinical insights, and practice-based knowledge, we highlight the barriers that limit access to literacy for this population, synthesize evidence-based approaches, and conclude by calling for a shift in educational discourse, from questioning whether nonspeaking autistic children can learn to read to ensuring that they are given meaningful opportunities to do so. Literacy is not merely an academic goal; it is a fundamental right that must be upheld for all students, regardless of their mode of communication.

KEYWORDS

autism spectrum disorder, reading acquisition, nonspeaking, reading acquisition strategies, barriers

Introduction

Literacy is a gateway to participation, autonomy, and equity (UNESCO, 2006). However, for nonspeaking¹ autistic learners (children who do not rely on speech as their primary mode of communication), access to literacy instruction remains limited, inconsistent, and often absent. As a researcher and teacher educator, I have seen firsthand the uncertainty educators face when supporting nonspeaking autistic learners. These children are often overlooked by educators, intervention programs, and even educational researchers. Their exclusion is not necessarily due to a lack of capability (Jaswal et al., 2024), but rather the persistence of outdated assumptions and the absence of structured, inclusive instructional frameworks.

¹ We use the term “nonspeaking” (rather than “nonverbal” or “minimally verbal”) to describe people who cannot communicate effectively using speech because it conveys the particular difficulty these individuals have producing speech without suggesting that they do not have or cannot understand language (<https://communicationfirst.org/>).

The purpose of this perspective paper is to argue that the ongoing marginalization of nonspeaking autistic students from literacy instruction is both an educational failure and a human rights issue. The paper will outline research that demonstrates how, with appropriate support, these students can develop meaningful literacy skills. My goal in this article is to reframe literacy acquisition for nonspeaking autistic learners not as a niche intervention, but as a priority grounded in equity and evidence. Drawing on current research and clinical practice, I will outline both the barriers and the promising directions for instructional design, teacher training, and future research.

The aim of inclusive and quality education is defined by the United Nations in the fourth Sustainable Development Goals document [United Nations, 2015] as to “ensure inclusive and quality education for all and promote lifelong learning.” As such, the objectives are to increase accessibility, presence, and active participation in the school life of all pupils, including those with high support needs. Nowadays, as inclusive education is increasingly mandated in more countries, all educators should possess the necessary knowledge to implement effective academic and reading instruction. Still, educators often lack the preparation and support necessary to translate evidence into practice, including training in augmentative and alternative communication (AAC) and adapted literacy strategies, which are essential for applying emerging knowledge in practice. As a result, instructional decisions are often guided by assumptions rather than data. Advances in AAC technology-assisted instruction and adapted literacy interventions have generated compelling evidence that these students can acquire meaningful reading skills when instruction is individualized and adequately supported (Ahlgrim-Delzell et al., 2014; Browder et al., 2010; Jaswal et al., 2024).

Exclusion and systemic gaps

Autism is a neurodevelopmental condition that is characterized by challenges in social communications and interactions, and by restrictive, repetitive patterns of behaviors and interests (Diagnostic and Statistical Manual of Mental Disorders—DSM-5, American Psychiatric Association, 2013). Nonspeaking autistic learners represent a highly heterogeneous population. Approximately 25% to 50% of autistic children have difficulty developing verbal language, and between 30% and 40% are classified as nonspeaking (La Valle et al., 2021). The majority display considerable heterogeneity in cognitive and academic abilities (Kedar and Bauminger-Zviely, 2022). While some individuals have co-occurring intellectual disabilities (IQ < 70) (Biggs et al., 2025; La Valle et al., 2021), many have intact or advanced cognitive abilities that are often masked by limited speech or by assessment tools that rely on verbal output (Arnold and Reed, 2019; Bal et al., 2016; Courchesne et al., 2015). Therefore, these children are at risk of being considered ‘low-functioning’ or regarded as having limited cognitive potential, although many do possess intact cognitive abilities (Bal et al., 2016; Courchesne et al., 2015).

In 2011 and 2016, the Interagency Autism Coordinating Committee (US Department of Health and Human Services and Interagency Autism Coordinating Committee, 2011; Interagency Autism Coordinating Committee (IACC), 2016) published a

report that concluded that more research was needed regarding interventions for nonverbal autistic people, leading to the claim that these children are “the neglected end of the spectrum” (Tager-Flusberg and Kasari, 2013). This exclusion is not necessarily based on evidence of their cognitive or learning potential, but on longstanding misconceptions that equate a lack of speech with a lack of literacy readiness or capability (Aidonopoulou-Read, 2025; Light et al., 2025). Consequently, many children are denied the opportunity to develop literacy skills simply because they are nonspeaking.

These children may use alternative forms of communication, such as gestures, signs, writing, or AAC, to express themselves (Biggs et al., 2025). They represent a distinct subgroup within the autism spectrum whose educational needs have been historically overlooked in both research, teacher education, and professional development (Aidonopoulou-Read, 2025; Light et al., 2025). Despite their diversity, I find that these learners are often viewed uniformly through a deficit-based lens, particularly in the context of academic learning and literacy development, echoing broader reports that nonspeaking autistic individuals are frequently underestimated in educational and research contexts (Aidonopoulou-Read, 2025; Light et al., 2025). Notwithstanding, while these students share some instructional challenges with other groups of students with complex communication needs, they also require specific and unique instructional methods (Light et al., 2025). Many nonspeaking autistic children face barriers in their efforts to achieve literacy, such as effective literacy instruction adapted to their needs, skilled teachers, and AAC that can assist them in the transition to literacy (Doda et al., 2024; Light et al., 2025; Collins et al., 2024).

These significant barriers prevent them from fully participating in academic activities, particularly in literacy instruction (La Valle et al., 2021; Kedar and Bauminger-Zviely, 2022; Light et al., 2025; Collins et al., 2024). Recent research suggests that at least some nonspeaking autistic individuals exhibit measurable literacy competencies (Jaswal et al., 2024). However, their lack of speech, combined with challenging behaviors and mannerisms, can result in misconceptions about their capacities, including their inability to acquire literacy (Light et al., 2025; Collins et al., 2024; Jaswal et al., 2024). Despite increasing advocacy for inclusive education, many instructional challenges persist, often restricting access to effective literacy instruction for these learners. Key challenges include the reliance on language-dependent teaching methods, as most school literacy curricula require verbal response (Arnold and Reed, 2019; Collins et al., 2024), limited educator familiarity with AAC, which is affected by inadequate training, time constraints, and low confidence in the use of AAC (Wallin et al., 2024), and a shortage of evidence-based instructional materials implemented in schools (Adams et al., 2025; Yorke et al., 2021; Kimhi et al., 2022). Additionally, both initial teacher training programs and ongoing professional development often lack sufficient focus on literacy instruction for this group of autistic children (Kimhi et al., 2022; Johnson et al., 2024; Ravet, 2017). Thus, it appears that in many cases, inclusive policies exist only on paper, yet they are often undermined by inadequate training, insufficient funding, and a lack of accountability mechanisms that hinder their effective implementation. Together, these barriers

hinder progress toward achieving equitable literacy outcomes, underscoring the urgent need for intentional policy changes and targeted instructional reforms.

Despite the increasing prevalence of autism (currently one in every 31 children according to the [Centers for Disease Control Prevention \(CDC\), 2025](#)) and increasing presence in general education classrooms, educators often lack the training, tools, and evidence-based strategies to support their literacy development effectively ([Adams et al., 2025](#); [Kimhi et al., 2022](#)). A recent study found a significant lack of educational support for autistic children in the general education school system and called for an immediate shift in policy to enable their support ([Hasson et al., 2022](#)). Moreover, the diversity among autistic individuals is a barrier to developing effective interventions ([Pizzano et al., 2024](#)). The absence of targeted policy frameworks that explicitly recognize the literacy rights of nonspeaking autistic learners contributes to widespread deficiencies in teacher preparation, curricular design, and instructional planning. As a result, many of these students are denied access to the literary tools essential for academic learning, autonomy, and full participation in society ([Finnegan and Mazin, 2016](#)).

Research on literacy acquisition for autistic children has expanded over the past two decades, yet nonspeaking autistic children, particularly those with co-occurring intellectual disabilities, remain underrepresented in intervention studies ([Solís et al., 2018](#)). Historically, these children were excluded from literacy instruction under the assumption that spoken language was a prerequisite for reading ([Mirenda, 2003](#)). Traditional reading instruction models, which assume typical verbal and cognitive development, frequently exclude these students by default ([Mirenda, 2003](#); [Browder et al., 2006](#); [Clendon et al., 2021](#); [Aidonopoulou-Read, 2025](#); [Light et al., 2025](#)). Nearly two decades ago, [Mirenda \(2003\)](#) promoted the view that all children should be taught to read, regardless of their speech or language abilities. She called for eradicating the “readiness model for reading,” which asserted that children could learn to read only after achieving sufficient verbal skills. Her wake-up call marked the turning point for including these children in the literacy community. The [National Reading Panel \(NRP\) \(2000\)](#) targeted five components of evidence-based reading instruction: phonemic awareness (knowing that spoken words are made up of individual sounds and the ability to manipulate those sounds), phonics (the relationship between the sound and the symbol of that sound), reading fluency, vocabulary, and comprehension strategies. Additionally, from the earliest stages of learning, it is crucial to prioritize the search for meaning as an instructional focus for all autistic children ([Finnegan and Mazin, 2016](#)).

However, while numerous adapted reading interventions exist, their application in inclusive and special education settings is inconsistent ([Kimhi et al., 2022](#); [Johnson et al., 2024](#)). Additionally, many interventions rely on traditional reading instruction methods that do not accommodate the students’ specific learning needs, such as visual learning preferences and alternative communication methods ([Clendon et al., 2021](#); [Yorke et al., 2021](#)). However, most studies on academic abilities in autism have focused on reading comprehension interventions for individuals without co-occurring intellectual disabilities ([Di Blasi et al., 2023](#); [Solís et al., 2018](#)).

A recent meta-analysis that systematically reviewed studies on school skills (reading, spelling, and math) in autistic children and adolescents with intellectual disabilities found that most studies assessed reading skills only in terms of decoding. In contrast, the assessment of text comprehension was only partially performed or absent. Furthermore, although 262 studies were assessed for eligibility for the meta-analysis, only four met the inclusion criteria, three of which focused on reading abilities but not on interventions ([Di Blasi et al., 2023](#)).

Evidence-based instruction

Reading instruction approaches can be broadly grouped into three categories: whole-word (top-down), phonics-based (bottom-up), and integrative (multicomponent) frameworks. Whole-word approaches prioritize the visual recognition of high-frequency or functional words ([Goodman, 1989](#)). Specific programs for students with severe cognitive challenges, such as the PCI Reading Program ([Toby et al., 2008, 2011](#)), utilize structured, errorless learning and repeated practice to teach children to recognize sight words in isolation and in context. These methods have been found effective in increasing word recognition and promoting early reading fluency among these children, including nonspeaking autistic children.

Phonics-based interventions ([Gough, 1972](#)), historically underused with nonspeaking populations, have gained significant attention due to the implementation of alternative response modes such as AAC, pointing, and touchscreen input ([Ahlgren-Delzell et al., 2014, 2016](#); [Yorke et al., 2021](#)). International guidelines and recommendations have emphasized that children must learn phonological awareness and decoding strategies ([Department for Education Skills, 2006](#)). Studies have shown that nonspeaking children can master phoneme-grapheme correspondence and blending when direct instruction is paired with AAC technology ([Ahlgren-Delzell et al., 2014, 2016](#); [Yorke et al., 2021](#)). The Headsprout Early Reading (HER) program is a comprehensive, phonics-based online intervention developed by Learning A-Z ([Headsprout, 2017](#)). The program features highly interactive activities that captivate children’s interest while providing immediate feedback and reinforcement. An independent randomized study evaluated the program and found that it significantly advanced nonsense-word reading fluency and phoneme segmentation fluency ([Grindle et al., 2021](#)). A recent study found that nonspeaking autistic teenagers and adults can learn how to spell when given suitable instruction and support ([Jaswal et al., 2024](#)).

The integrative, multicomponent approach combines elements of phonics and whole-word instruction, emphasizing flexibility and individualization ([Rumelhart, 1977](#)). This model aligns with the heterogeneity of the autistic population, allowing educators to capitalize on individual strengths, such as visual memory or pattern recognition, while supporting areas of difficulty. Programs such as the Early Literacy Skills Builder ([Browder et al., 2007, 2010](#)) and its successor, the Early Reading Skills Builder ([Ahlgren-Delzell et al., 2016](#)), based on scripted instruction, reinforcement systems, and AAC-compatible assessments, have demonstrated significant improvements in phoneme segmentation,

word decoding, and comprehension among children with severe developmental challenges, including those with autism. A literature review on multicomponent reading interventions for children with intellectual challenges, including autism, found these interventions significantly enhanced their reading skills (Afacan et al., 2017).

Computer-assisted instruction (CAI) and digital tools have emerged as effective platforms for delivering literacy content to nonspeaking children (Kurzeja et al., 2024; Kim et al., 2022). These tools offer visual, interactive environments that alleviate the cognitive and social demands of teacher-led instruction and can be personalized to individual learner profiles (Saadatzi et al., 2017). Importantly, these tools often integrate AAC, enabling nonspeaking learners to respond through icons, keyboards, or speech-generating devices (Knight et al., 2013). A recent systematic review that examined the effectiveness of reading programs that included CAI for children with intellectual challenges and/or autism found that 34 of the 47 studies reported positive outcomes (Kurzeja et al., 2024). All the interventions in the review included elements of active responding, consistent and systematic instruction, and immediate feedback, implying that these could indeed be key components to the success of these reading interventions.

In addition to formal curricula, several instructional practices support literacy development in nonspeaking learners, especially if they create an engaging and supportive learning environment that empowers children to become active and independent learners (Yakubova et al., 2020). Among the strategies that are frequently employed are strategies that derive from two major fields—structured teaching (Mesibov and Shea, 2010), which involves organizing the environment in order to assist children in understanding what is expected of them, and behavior analysis interventions that aim to teach children various behaviors, including academic behaviors (Foran Conn et al., 2021). Furthermore, scaffolding and generalization strategies (Sartini et al., 2018) facilitate learning, especially when introducing a new academic subject.

Researchers also emphasize the importance of distinguishing between the acquisition and assessment phases when teaching (e.g., Basil and Reyes, 2003; Saadatzi et al., 2017). Many teachers mistakenly assess and evaluate children's abilities while teaching, thereby increasing the levels of frustration and incompetence they experience. The acquisition phase should focus on teaching and enabling successful learning, while the assessment phase should be clearly defined and structured to evaluate what has been learned.

Another crucial aspect is enhancing a rich literacy environment within the home. This is essential for all children (Dowdall et al., 2020) and is particularly beneficial for these children (Westerveld et al., 2021). As such, family engagement in both the planning and implementation of their child's literacy curriculum is critical for fostering the development of their abilities (National Association for the Education of Young Children, 2022).

In summary, the current system reveals a significant disparity between research evidence and everyday educational practice. While studies increasingly confirm that nonspeaking autistic learners can acquire literacy through appropriate supports, these findings have not yet translated into widespread instructional change. Without a shift in beliefs and practices, the literacy potential of these students will remain systematically underdeveloped (Kimhi et al., 2022).

Discussion and future directions

This perspective paper presents a compelling argument that literacy for nonspeaking autistic learners should focus on dismantling existing barriers. By emphasizing the importance of knowledge and providing accessible support, we can foster a learning environment where every learner can succeed. The high prevalence of autism heightens the likelihood that most teachers will encounter learners with limited speech and underscores the need for AAC-compatible literacy routines. The accumulated evidence shows that when providing explicit, evidence-based instruction across phonics, word recognition, vocabulary, and comprehension, nonspeaking students can acquire foundational literacy skills (Browder et al., 2008, 2010; Ahlgrim-Delzell et al., 2016; Grindle et al., 2021; Jaswal et al., 2024). It appears that what has hindered translation is a lack of guidance on how to implement the selection of alternative response modes, separating teaching from testing, and developing teacher proficiency with AAC-supported routines (Clendon et al., 2021; Knight et al., 2013).

It may be that the exclusion of nonspeaking autistic learners from literacy instruction reflects a mismatch between prevailing teaching methods and the learners' cognitive and communicative profiles, as conventional models emphasize speech and phonological decoding, assumptions that conflict with the speaking challenges and alternative communication modes used by many nonspeaking learners. Recent research examining a large, diverse group of nonspeaking autistic children identified unique heterogeneity and comprehensive profiles of cognitive, language, and social communication skills, showing that they are not characterized by their speaking abilities alone, but rather by a multifaceted view of their cognition and skills (Pizzano et al., 2024). When these cognitive characteristics are not considered, even well-intentioned teachers often interpret limited speech as a lack of literacy potential rather than as a signal that the instructional format needs to change.

A clear example of the necessity of adhering to the needs of nonspeaking children can be found in a study that compared the reading scores of speaking and nonspeaking autistic children. Using a traditional reading comprehension test and an adapted digital format with a touchscreen that eliminated the need for verbal answers, nonspeaking children who could not answer the traditional exam scored up to ceiling effect levels on the adapted exam (Arnold and Reed, 2019). The findings clearly suggest that many nonspeaking autistic children may indeed recognize printed words, yet their ability is often undetected.

Following the National Reading Panel (NRP) (2000) recommendations regarding comprehensive reading interventions, the focus has shifted toward teaching integrative, comprehensive interventions. Sight word instruction or phonetic instruction alone typically does not promote generalization and does not enhance the ability to read words that have not been specifically taught (Browder et al., 2006). To date, the most substantial evidence from randomized or group-design studies supports the implementation of adapted phonics and multicomponent curricula (e.g., ELSB/ERSB, Head Sprout). These show gains in phoneme segmentation, decoding, and early comprehension for students with significant support needs, including autistic learners who

use AAC (Browder et al., 2008, 2010; Ahlgrim-Delzell et al., 2016; Grindle et al., 2021). Still, it is essential to remember that there is no one-size-fits-all approach to instruction. Literacy interventions should be initiated as early as possible and include the search for meaning from the beginning. Comprehensive, multi-component interventions should include phonemic awareness, phonics, oral reading fluency, vocabulary instruction, and text comprehension. They can be implemented in class routines, including varying response modes and separating acquisition from assessment. Evidence-based practices such as structured teaching, including visual supports (Mesibov and Shea, 2010), direct instruction (Stockard et al., 2018), behavior-based interventions, including errorless learning and reinforcement (Foran Conn et al., 2021), CAI (Kim et al., 2022), and AAC are all recommended. They should all be considered when teaching nonspeaking autistic children (Kimhi and Acharzad, 2025; Yakubova et al., 2020). To foster their inclusion in the literary community, it's vital to enhance these children's access to literature and encourage their independent reading (Kimhi and Acharzad, 2025). Limited access to literacy constrains their opportunities for independent communication, academic progress, employment, and civic participation. According to the World Literacy Foundation (2023), the social impact of illiteracy is harsh, including poor health outcomes, welfare dependency, and inequality. As a teacher educator, we must do everything in our power to support this specific group of nonspeaking children and advocate for their rights to be part of the literary community.

Looking ahead, translating research into clear, practical educational guidance is essential to support literacy instruction for nonspeaking autistic learners. Without structured frameworks, even committed educators may struggle to consistently implement accessible practices. National and local guidelines can play a crucial role in supporting learners' right to literacy. They should outline how to incorporate evidence-based approaches, such as adapted phonics, whole-word strategies, and multicomponent interventions that are tailored to individual strengths and needs. Additionally, these guidelines should include alternative response modes, such as AAC, eye gaze, or touchscreen input, as part of everyday instruction (Ahlgrim-Delzell et al., 2014; Knight et al., 2013).

Another future direction involves strengthening both pre-service teacher preparation and ongoing professional learning. Teacher education programs have the potential to equip future educators with the tools needed to support nonspeaking autistic learners, particularly when they include coursework focused on evidence-based strategies, AAC-supported literacy, and visual supports. Embedding principles of Universal Design for Learning (CAST, 2018) and behaviorally informed approaches into training may help teachers respond more effectively to diverse learning profiles.

In-service professional development can also play a critical role when delivered through ongoing, collaborative formats such as workshops, webinars, and coaching models involving interdisciplinary specialists, including speech-language pathologists and behavior analysts. A recent systematic review on supporting autistic children in inclusive education concluded that professional development should prioritize autism-specific knowledge and strategies for adapting instruction to accommodate these students (Pettersson-Bloom and Hansson, 2022).

Conclusion

Effective reading instruction for nonspeaking autistic children is essential not only for best educational practices but also as a fundamental human right and a prerequisite for achieving equity. Ensuring equity in education requires not just structural policies but also educators' daily ability and confidence to meet diverse needs (Pettersson-Bloom and Hansson, 2025). Despite global commitments to inclusive education, these learners continue to encounter systemic barriers due to inadequate policy guidance, limited teacher preparation, and a lack of specialized instructional resources. Bridging these gaps requires a coordinated, evidence-based approach that acknowledges learner diversity and the need for individualized, accessible literacy instruction. Moreover, shifting the focus from deficits to strengths offers a transformative lens for understanding literacy potential. When challenges are viewed as opportunities for innovation, educators can develop inclusive pedagogies that celebrate neurodiversity and promote equity. This perspective resonates with broader disability frameworks, which emphasize the social and cultural dimensions of disability and the importance of accessibility as a fundamental right (United Nations, 2006). The following are the proposed core recommendations:

1. Developing Literacy Guidelines for Nonspeaking Autistic Learners

Explicit literacy guidelines that recognize the right of nonspeaking autistic students to access reading instruction tailored to their unique communication profiles should be developed by professionals in this field.

2. Strengthening Teacher Preparation and Professional Development

Teacher preparation should include coursework and practicum experiences in evidence-based literacy instruction for nonspeaking learners, with training in AAC, errorless learning, and digital tools. In-service training should strengthen teachers' ability to adapt instruction, assess progress without speech, and collaborate with specialists. Ongoing professional learning through coaching and learning communities can sustain skills development. Schools should also engage in research-practice partnerships to support innovation and evidence use.

3. Enhancing Family and Community Partnerships

Effective literacy outcomes depend on strong, ongoing collaboration between schools and families. Educators and clinicians can strengthen family capacity to support AAC and literacy development at home through training workshops, shared reading routines, and accessible guidance materials. Consistent collaboration ensures that literacy learning extends beyond the classroom and becomes an integral part of the child's daily life.

To close the research-to-practice gap, dedicated investment is needed in rigorous, large-scale studies that explicitly include nonspeaking autistic learners. These efforts should prioritize the development of accessible interventions and validated assessments that do not rely on speech. Longitudinal research and mixed-method evaluations can shed light on both learner outcomes

and instructional implementation. Schools should be supported to engage in research-practice partnerships that pilot and refine these approaches. Ultimately, the question is no longer whether nonspeaking autistic children can learn to read, but how we ensure they are given every opportunity to do so. On a final, personal note, in my work with educators, I have witnessed the inspiring transformation when teachers begin to view nonspeaking children as competent, curious learners, once the right tools are in place.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding authors.

Author contributions

YK: Conceptualization, Visualization, Writing – original draft, Writing – review & editing.

Funding

The author(s) declare that no financial support was received for the research and/or publication of this article.

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